

Restoration and TMDL WIPs: Stakeholder Meeting #2



**City of Baltimore
Department of Public Works**

July 2014

NOTE: A glossary of stormwater acronyms that are in this presentation can be found at <http://www.cleanwaterbaltimore.org/flyers/Stormwater%20Glossary.pdf>



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MS4 Recap / Comments



Baltimore City Department of Public Works



MS4 Recap / Comments

On December 27, 2013, The Maryland Department of the Environment (MDE) reissued a National Pollutant Discharge Elimination System (NPDES) stormwater permit to the City of Baltimore – also known as the Municipal Separated Storm Sewer System (MS4) permit. This permit lasts for 5 years.

In order to reduce contaminated stormwater runoff and improve water quality, Baltimore's permit requires that the City develop restoration plans by the end of 2014 to treat and/or reduce 20% of the City's impervious surface area (approximately 4,000 acres – the equivalent of 3,000 football fields!), including:

- Implementing comprehensive stormwater management programs for addressing runoff from new and redevelopment projects
- Restoring urban areas where there is currently little or no stormwater management
- Working toward reducing polluted stormwater runoff into our storm drains, streams, and harbor.

Comments from the previous meeting (full account of comments can be found at www.cleanwaterbaltimore.org):

- How will DPW be selecting projects?
- The MS4 plan should complement and advance other plans and initiatives (ie, Healthy Harbor)
- Public education campaign needs to be directed at behavior change, TV, Radio, billboards, buses, bus shelters, grocery store bags, magazines, internet, and social media.
- Incorporate public education into the schools and curriculum.
- Adopt various policies and city ordinances; ie, Styrofoam food and drink containers, plastic bags, and bottles.
- What is the role of the community and non-profits in planning, implementing, and maintaining green infrastructure?
- What kind of support will be provided to partners?



6 Pillars of Practical Watershed Planning

- 1. Plan for more projects than you need.**
2. Plan for resources that will affect funding needs.
3. Plan to maintain.
- 4. Plan to be part of a bigger picture.**
5. Plan for effective public participation.
6. Plan to adapt.

* the items highlighted in **red** are the focus of this presentation



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5 Years: 20% Restoration



Projects

- Large Stormwater BMPS
- Stream Restoration Projects
- Urban ESD Projects
- Impervious area / Greening Projects
- Debris Collection within Public System

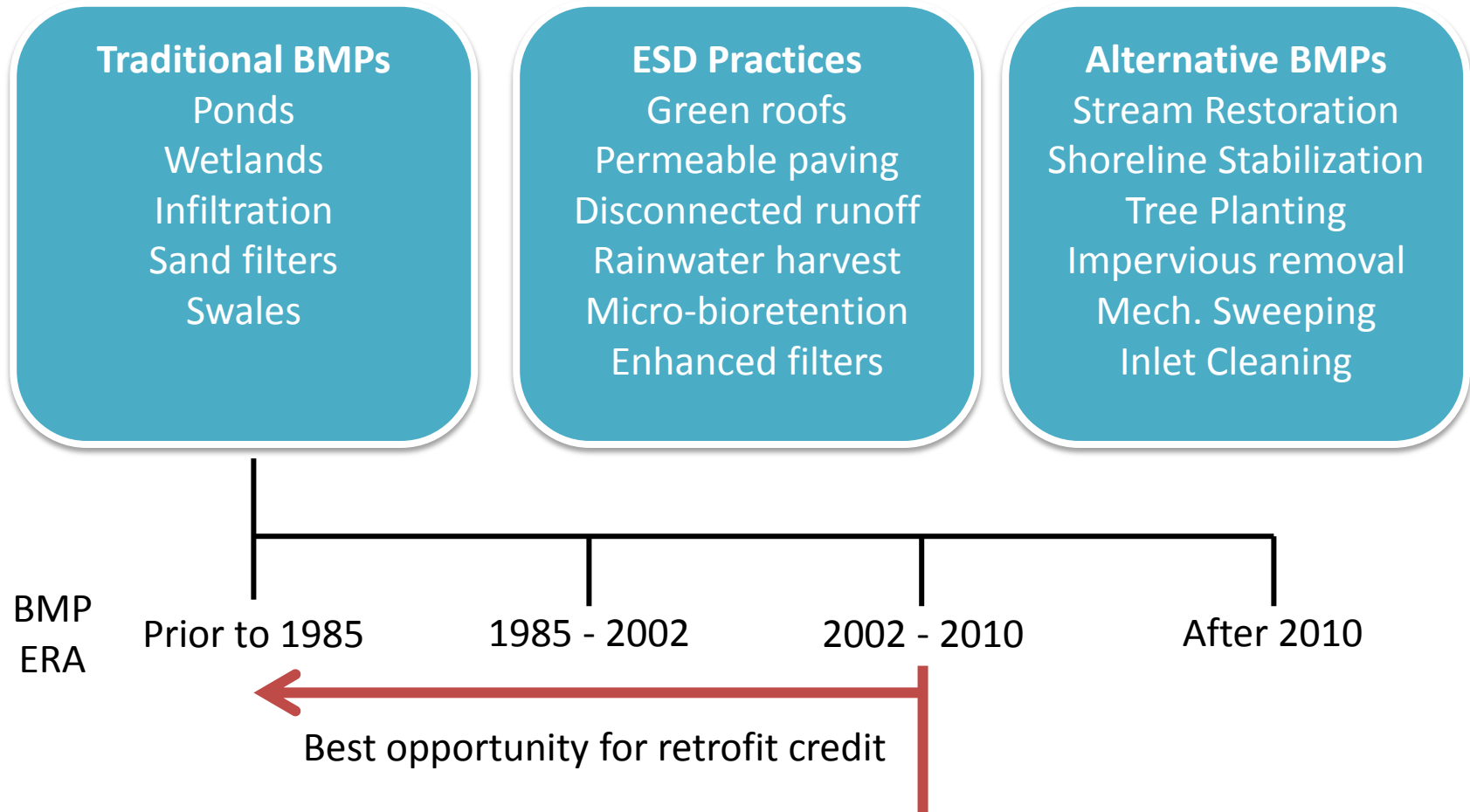
Programs

- Increased street sweeping
- Preventative inlet cleaning
- Illicit Discharge Detection and Elimination Program
- Erosion and Sediment Control Enforcement
- Education / Outreach

Partnerships

- MD Stormwater Remediation Fee Credit Program
- Private Development
- Incentives

Stormwater Best Management Practices (BMPs)



Projects

Project Description	# Projects	Impervious Area
Traditional BMPs		
Retrofitting existing stormwater ponds	3	150 acres
Installing new ponds, bioretention, and structural filtration practices	5	250 acres
ESD Practices		
Installing micro-practices and green roofs	11	55 acres
Creating new community green spaces from previously vacant lots.	12	30 acres
Alternative BMPs		
Restoring over 9 miles of stream banks and stabilize failing outfalls	26	2,840 acres*
Planting over 26,000 trees to create greener and cooler neighborhoods.	Various	150 acres
SUB-TOTAL		3,475 acres

Notes:

1. For Alternative BMPs, DPW will use equivalent acres treated calculations as approved by MDE.
2. "Projects" means that they are either located on public land and right-of-ways or installed by DPW.
3. DPW is in conversation with MDE to determine amount of equivalent impervious area credit for stream restoration.
4. Projects may include a "bundle" of BMPs at multiple locations; ie one project might be 5 different micro-bioretention facilities.
5. The sub-total amount should be added to those of Programs and Partnership (see slides 8 and 9).



Programs

Description	Imp. Area
Expanded City-wide mechanical street sweeping	440 acres
Preventive cleaning of catch basins and debris collectors	45 acres
Illicit Discharge Detection and Elimination (IDDE) program	250 acres*
Erosion and sediment control enforcement	50 acres*
Public Education	20 acres*
<hr/>	
SUB-TOTAL	805 acres

Notes:

1. Programs are considered Alternative BMPs; DPW will use equivalent acres treated calculations as approved by the Maryland Department of the Environment (MDE)
2. DPW is in conversation with MDE to determine amount of equivalent impervious area credit for programs with an asterisk
3. The sub-total amount should be added to those of Projects and Partnership (see slides 7 and 9)



Partnerships

Description	Imp. Area
Development Requirements	180 acres
Voluntary practices & SWM Fee Credit Practices	215 acres
	SUB-TOTAL 395 acres
Note: Partnerships represent projects that are installed on private property and/or in partnership with private and non-profit partners.	TOTAL 4,675 acres



MS4 Restoration Plan Outline

- Background
 - City Description
 - Summary of TMDLs
 - Watershed Assessments
 - Previous restoration
 - Other regulatory factors
 - Other environmental initiatives
 - Development of plan methodology
- Description of projects and programs
 - Summary
 - Proposed projects
 - Proposed programs
 - Education elements
 - Maintenance
- Milestones
 - Tracking mechanisms
 - Program milestones
 - Project milestones
- Adaptive management
 - Annual report and procedure for changes
 - Evaluation
- Financial Strategy

**FINAL DRAFT:
OCT. 2014
PUBLIC COMMENT:
NOV. 2014
PLAN DUE TO MDE
DEC. 27, 2014**

Sample Strategy Format

Description	Equivalent Treatment (acres imp. area)	Nitrogen (TN) (lbs /yr)	Phosphorus (TP) (lbs/yr)	Sediments (TSS) (tons/yr)
Traditional BMPs				
Ponds				
Wetlands				
ESDs				
Micro-bioretentation				
Permeable paving				
Green Roofs				
Rainwater harvesting				
Enhanced filters				
Alternative BMPs				
Stream Restoration				
Tree Planting				
Impervious Removal				
Programs				
Street Sweeping				
Inlet Cleaning				
TOTAL				

Note: This table represents a template for how we will be tracking acres treated with the pollutant load reductions required by our various TMDLs and the Chesapeake Bay TMDL.



Sample Specific Project Format

Project Number/ Type	Location	Cost	Schedule		Impervious Area Reduction (ac)	Estimated Pollutant Removal (lbs / year)		
			Design	Construction		TN	TP	TSS
Projects								
ER #1111- Pond Retrofit								
ER #1112- Wetland								
ER #1113- Pond Retrofit								
ER #1211- Green Roof								
ER #1213- Micro-ESD								
ER #1214- Micro-ESD								
ER #1311- Facility Greening								
ER #1312- Facility Greening								
ER #1313- Stream Restoration								
ER #1314- Stream Restoration								

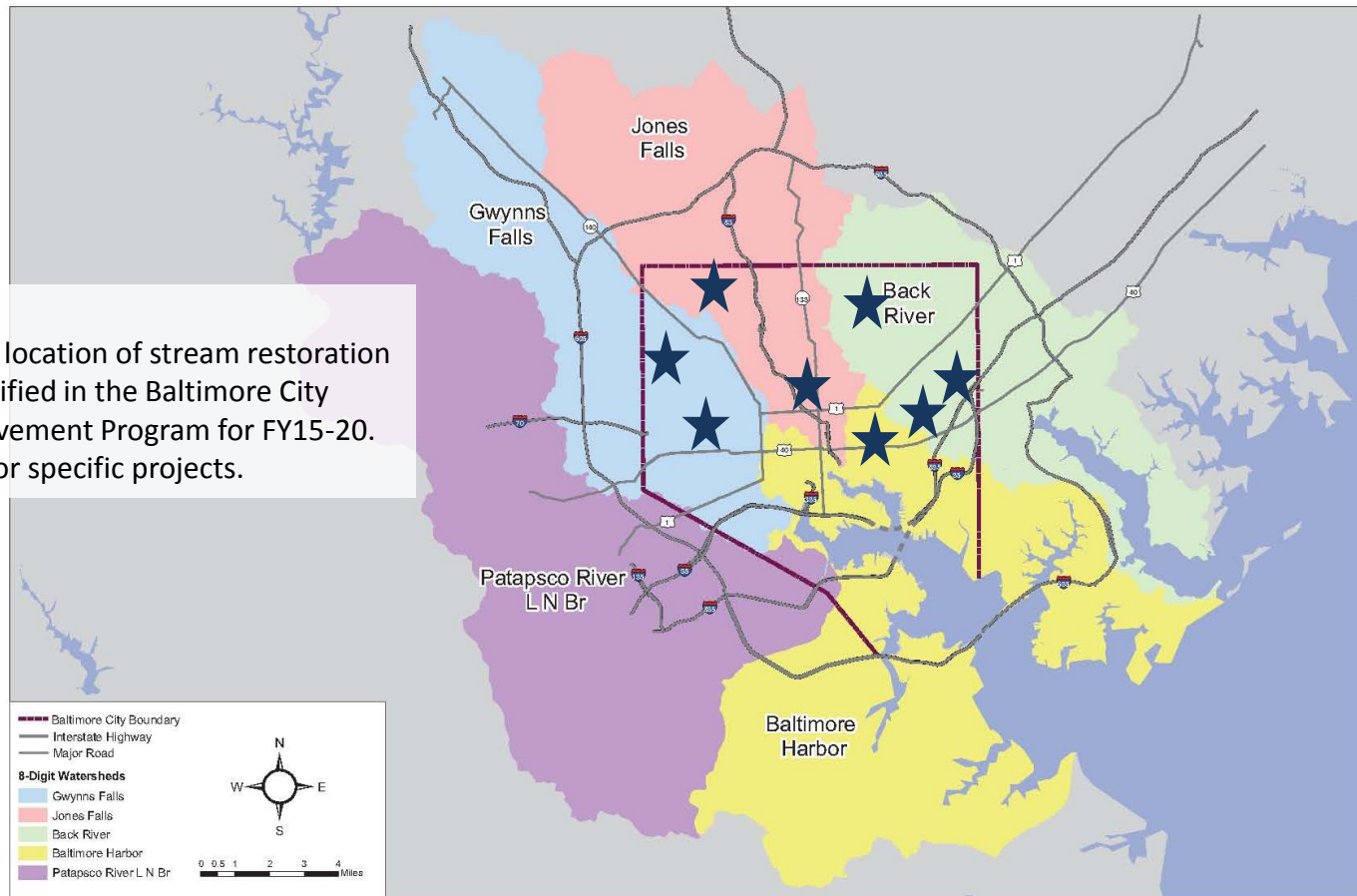
Note: This table represents a template for tracking specific projects that will then be reported in the Strategy Format table (slide 11).



Focus: Stream Restoration Projects

Note:

These are the location of stream restoration projects identified in the Baltimore City Capital Improvement Program for FY15-20. See Slide 14 for specific projects.



Focus: Stream Restoration

Stream Restoration	Upstream Neighborhoods
Biddison Run	Frankford, Waltherson
Chinquapin Run	Cameron Village, Cedarcroft, Chinquaping Park-Belvedere, Glen Oaks, Idelwood, Kenilworth Park, Lake Evesham, Mid-Govans, New Northwood, Perring Loch, Ramblewood, Stonewood-Pentwood-Winston, Woodbourne Heights
Lower Moore's Run	Cedonia, Christopher, Frankford, Harford-Echodale-Perring Parkway, Lauraville
Powder Mill Run	Grove Park, Howard Park, West Arlington, Woodmere
Stony Run	Hampden, Remington, Roland Park
Western Run	Cheswolde, Glen, Mt. Washington

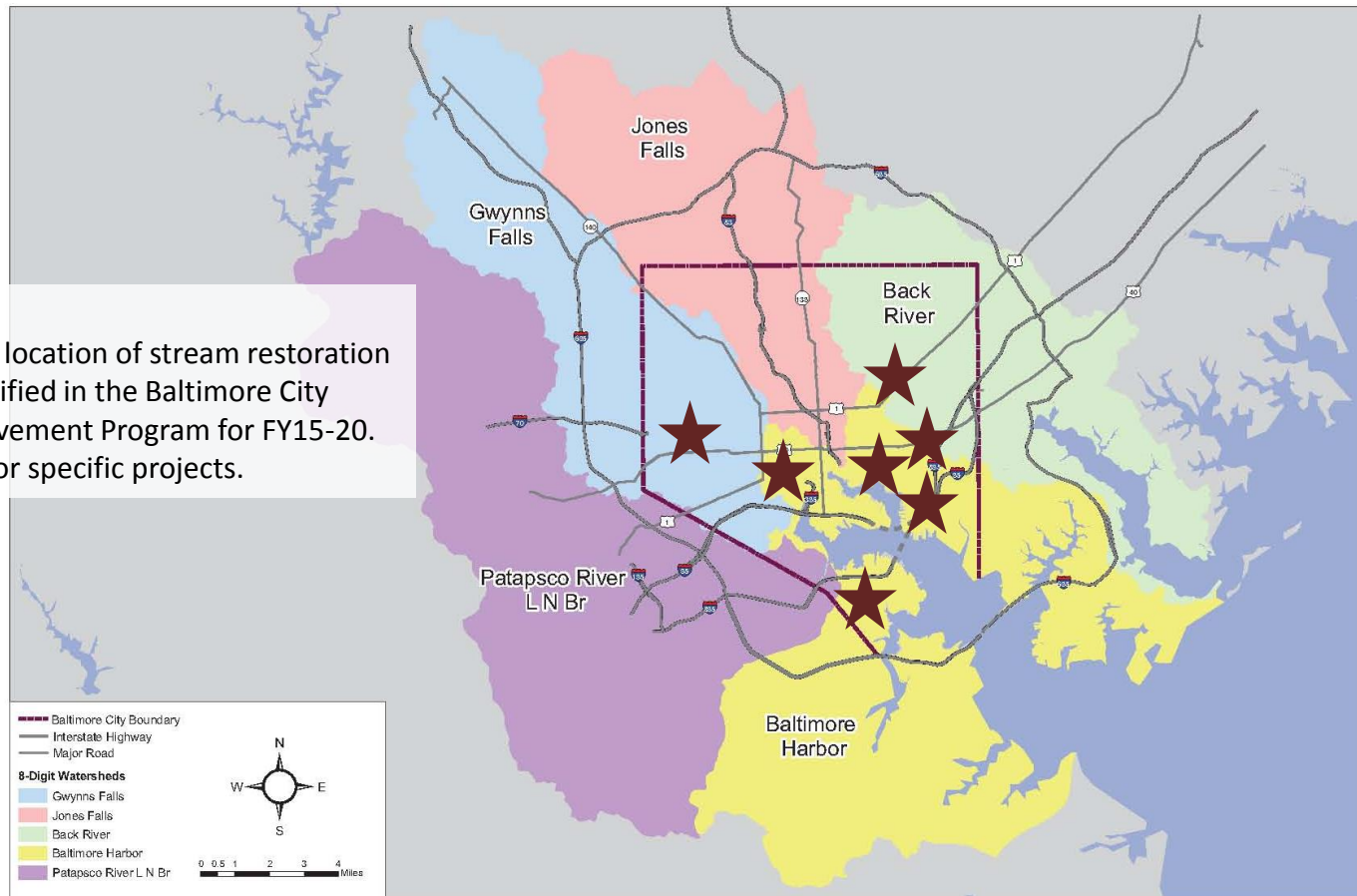
Note: One of the strategies for locating new BMPs is to target neighborhoods and areas where other investment and projects are being implemented. This is an example of identifying the upstream neighborhoods for stream projects.



Focus: Flooding / Infrastructure

Note:

These are the location of stream restoration projects identified in the Baltimore City Capital Improvement Program for FY15-20. See Slide 14 for specific projects.



Focus: Flood / Infrastructure Locations

Flood Location / Capital Infrastructure	Upstream Neighborhoods
Cherry Hill / Patapsco Avenue	Cherry Hill, Lakeland
Leakin Park	Dickeyville, Forest Park, Hunting Ridge, West Hills, Windsor Hills
Monument Street	McElderry Park, Middle East, Milton-Montford, JHMC
North Point Road	Eastwood, Pulaski Industrial Area
Pulaski Highway	Armistead Gardens, Kresson, Orangeville, Pulaski Industrial Area
Race Street	Federal Hill, Sharp-Leadenhall, Otterbein

Note: One of the strategies for locating new BMPs is to target neighborhoods and areas where other investment and projects are being implemented. This is an example of identifying the upstream neighborhoods for infrastructure projects.



Pillar 4: Plan to be Part of a Bigger Picture

[Sustainability Plan](#) / [Climate Action](#) / [DP3](#) / [Healthy Harbor](#)

- Eliminate litter throughout the city
- Ensure that Baltimore water bodies are fishable and swimmable
- Double Baltimore's tree canopy
- Create an interconnected network of green spaces

[Mayoral](#) / **Other Initiatives**

- Attract 10,000 new households to Baltimore
- Demolish 4,000 houses ([Vacants to Value](#) / [Growing Green Initiative](#))
- [10-year building plan](#) to renovate and/or replace 136 school buildings
- Reduce blight and return vacant houses and land to productive use
- Improve the quality of right-of-ways in neighborhoods
- Increase the overall number of businesses in the city

Note: Click on the hyperlink to access information about the various plans, reports, or initiatives



Benefits of Stormwater Management

Primary: pollution reduction

Secondary: social, economic, and environmental

- New green space in underserved neighborhoods
- Job stimulus
- Health and safety - reduce flooding and heat island effect
- Habitat restoration
- Neighborhood enhancements and aesthetics
- Traffic calming
- Recreational access

What benefits are most important to you? Are we missing benefits that need to be considered in selecting stormwater management projects?



Baltimore City Department of Public Works



Public Meeting Schedule

Introduction

June 16, 6 to 7:30
Southeast Anchor Library
3601 Eastern Ave.

Initial Goals

July 16, 6 to 7:30
Reisterstown Road Library
6310 Reisterstown Rd

NEXT MEETING

Project Prioritization / Funding

August 7, 6 to 7:30
Orleans St. Library
1303 Orleans St.

Maintenance / Contingency

Sept. 8 , 6 to 7:30
Southeast Anchor Library
3601 Eastern Ave.

At the August meeting the presentation and discussion will focus on more detailed plans for projects and programs, including preliminary costs and maps



Baltimore City Department of Public Works



Can't Make a Monthly Meeting??

- Website
 - Power point presentations
 - Meeting “minutes”
 - Preliminary maps and plans
- Facebook
- E-mail publicworks@baltimorecity.gov, re: MS4 Plan
- Phone: 410-396-0732



Can't make a meeting? Please send us your questions, comments, and ideas!



Baltimore City Department of Public Works



Thank You for Your Time.

Mr. Mark Cameron

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